

REMARKS

Status of the Claims

Claims 33 – 65 are currently pending. Claims 1 – 32 have been previously withdrawn.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 33 – 65 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. The Examiner asserts that “the claims . . . indicate that ‘immediately prior’ to being combined with an electrolyte, the fibrous material passes through a 4x4 shake test,” that “there is no support for this processing limitation” and that “Applicant did not teach, in the Specification as originally filed, that the fibrous material is combined with the electrolyte immediately after passing the mesh shake test.” See page 4 of the Office Action dated September 25, 2009.

Applicants assert that the claims do not require that the fibrous material actually pass through the mesh during a shake test immediately prior to combination with the electrolyte. Rather, the claims require that the fibrous material is capable of passing through a 4x4 mesh during a shake test. Indeed the claim language is not in fact a process step limitation, but is instead a limitation on the physical characteristics of the fibrous material. Furthermore, Applicants use the phrase “immediately prior” to convey a point in the claimed process at which the fibrous material possesses these physical characteristics. Applicants further assert, and detail below, that the Specification does provide sufficient support and adequately describes a 4x4 mesh and a shake test, so that one of ordinary skill in the art would understand these physical characteristics. Thus Applicants submit that the Specification provides sufficient support for “fibrous material [that] is capable of passing through a 4x4 mesh during a shake test,” as claimed.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 33 – 65 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. The Examiner asserts that “the Specification [does not describe] what the shake test comprises, i.e. how long is the shake test performed and under what conditions.

Additionally, Application does not described with sufficient specificity what comprises a ‘4x4 mesh.’” Additionally, the Examiner asserts that “[t]he term immediately . . . is a relative term which renders the claim indefinite.” See pages 4 – 5 of the Office Action dated September 25, 2009.

Regarding the description of a shake test, Applicants direct the Examiner’s attention to paragraph 0038 of the published application (page 7, lines 18 – 24 of the originally filed specification) which describes a shake test as shaking a sample of fibrous material “for five minutes at 42 Hz using a Syntron shaker; and weighing the amount of the glass fibers that passed through the screen.” Applicants also submit the enclosed ASTM Standard Specification for Industrial Woven Wire Cloth, originally approved in 1999, as Appendix A. Applicants respectfully submit that this ASTM Standard indicates what one of ordinary skill in the art would have understood by the term “4x4 mesh.” See, e.g., section 3.1.6 of the ASTM Standard Specification, defining mesh as “the number of wires or openings per linear inch (25.4 mm) counted from the center of any wire to a point exactly 1 in. (25.4 mm) distant, including the fractional distance between either thereof.” See also the glossary section “M” from www.wovenwire.com, enclosed as Appendix B and “Wire Cloth Definitions” in Appendix C.

Regarding the alleged indefiniteness of the term “immediately,” Applicants assert that the term is used to fix a point in time during which the fibrous material possesses certain physical characteristics (i.e., 5 weight percent of a sample is capable of passing through a 4x4 mesh during a shake test) as described above rather than establishing a timeline of process steps. In this context, one of ordinary skill in the art would understand what is claimed based on the disclosed method of manufacturing batteries. See, e.g., paragraph 0058 – 0061, 0075, 0077, 0078 and 0080 of the published application.

Rejections under 35 U.S.C. § 103(a) based on Holland & Reher

Claims 33, 34, 36 – 45, 47 – 53, 55 – 60 and 62 – 65 stand rejected under 35 U.S.C. 103(a) as allegedly obvious over U.S. Patent No. 5,468,575 to Holland, et al. (the Holland patent) and U.S. Patent Application Publication No. 2003/0182972 to Reher, et al (the Reher publication). Applicants respectfully traverse these rejections.

Applicants respectfully point out that as recited in the MPEP § 2143, "to establish a

prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation . . . to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations.” For at least the reasons set forth below, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Applicants assert that there would have been no expectation of success in combining the two references. The Examiner correctly ascertains that the Holland patent fails to teach fibers, at least 5% of which are capable of passing through a 4x4 mesh in a shake test immediately before being disposed in the battery case. The Holland patent, in fact, teaches, webs of fibrous material, see, e.g., Office Action dated September 25, 2009 at page 6. The Examiner, however, asserts that the claims are obvious because one of ordinary skill would have combined the two references because the Reher publication teaches glass fibers, at least five weight percent of which pass through a 4x4 mesh during a shake test, and that these fibers improve the performance of the battery.

The Examiner simplifies the teachings of the Reher publication. The Reher publication, in fact, does not teach that simply adding the glass fibers to the battery improves the performance of the battery. Instead, Reher teaches that improved battery performance is the result of adding the fibers to an electrode material. See, e.g., paragraphs 0009 through 0013 and 0020 through 0025 of the Reher publication. Furthermore, the Reher publication describes the improved battery performance as result of “including the glass fibers in anode composition and/or cathode composition.” See paragraph 0050. The Reher publication elaborates that the fibers, as part of an electrode material, increase the access to active electrode material in the battery, increase the amount of electrode material that can participate in chemical reactions and inhibit the formation of inactive materials on the surface of an electrode. Thus, to achieve the improved results described in the Reher publication, the fibers must be part of the electrode material. Simply combining the fibrous material with electrolyte and disposing the electrolyte and fibrous material in the case would not obtain the results described in Reher. The fibrous material as claimed simply cannot serve the functions of the fibrous material in the Reher publication. One of ordinary skill in the art would not have expected improved battery performance of Reher simply by adding the fibrous material, without the electrode material, to the battery, as taught by the Holland patent without the mixture of electrode material and fibers required by the Reher publication. Applicants

respectfully submit that the claims are not obvious based on the combination of the Holland patent and the Reher publication, because one of ordinary skill in the art would not expect success.

Further, Applicants assert that the combination of the Holland patent and the Reher publication fails to teach each and every element of the claimed invention. Specifically, the cited references fail to teach a fibrous material, at least 5 weight percent of which is capable of passing through a 4x4 mesh in a shake test immediately before being combined with an electrolyte. As the Examiner has noted, the Holland patent teaches webs of fibrous material that are combined with an electrolyte. Further, as the Applicants described above, the Reher publication only describes fibrous material combined with electrode material. Further, because the Reher publication is directed to an improved electrode material, Applicants assert that one of ordinary skill in the art would not be motivated to combine the fibrous material described in the Reher publication with the battery described in the Holland patent.

Claims 35, 46, 54 and 61 stand rejected as allegedly obvious under 35 U.S.C. 103(a) based on the combination of the Holland patent, the Reher publication and U.S. Patent No. 6,150,056 to Inagaki, et al. (the Inagaki patent). The Examiner uses the Inagaki patent to teach the use of potassium hydroxide as an electrolyte in batteries, and in nickel-metal hydride batteries in particular. Applicants assert that the Inagaki patent fails to provide the necessary missing elements, motivation to combine, or expectation of success as described above regarding the combination of the Holland patent and the Reher publication. Thus, claims 35, 46, 54 and 61 are allowable over this combination.

Rejections under 35 U.S.C. § 103(a) based on Holland & Zguris

Claims 33, 34, 37 – 45, 47, 49, 51 – 53, 55 – 60, 62 and 64 stand rejected under 35 U.S.C. § 103(a) as obvious based on the combination of the Holland patent and U.S. Patent No. 6,306,539 to Zguris (the Zguris patent).

Applicants submit that the references, alone or in proper combination fail to teach each and every element of the claims. Specifically, neither the Holland patent nor the Zguris patent teach fibrous material, of which at least five weight percent is capable of passing through a 4x4 mesh in a shake test immediately prior to combination with the electrolyte. The Examiner asserts that the Zguris patent teaches fibers that have a diameter of 0.8

microns, thus the fibers are capable of passing through a 4x4 mesh during a shake test. In fact, the Zguris patent teaches that these fibers are in fact “formed, into a mat weighing 310 g/m².” See col. 12, lines 7 – 9. The Zguris patent repeatedly describes the production of mats of the fibrous material. The Zguris patent, in discussing battery assembly, combines the mats with electrolyte, or disposes the mats in a battery case. Applicants submit that the fibrous material, because it is in the form of a mat, could not pass through a 4x4 mesh, immediately prior to combination with an electrolyte. The Holland patent, as described above, does not disclose fibrous material of which at least 5 weight percent is capable of passing through a 4x4 mesh during a shake test immediately prior to combination with the electrolyte. Thus, Applicants assert that the combined teachings of both the Holland patent and the Zguris patent fail to teach each and every element of the claims. As such, the combination fails to render the claims obvious,

Claims 35, 46, 54 and 61 stand rejected as allegedly obvious under 35 U.S.C. 103(a) based on the combination of the Holland patent, the Zguris patent and the Inagaki patent. Again, the Examiner uses the Inagaki patent to teach the use of potassium hydroxide as an electrolyte in batteries, and in nickel-metal hydride batteries in particular. Applicants repeat their previous assertion that the Inagaki patent fails to provide the necessary missing elements, as described above, regarding the combination of the Holland patent and the Zguris patent. Thus, claims 35, 46, 54 and 61 are not obvious in view of the combination and, Applicants submit, are allowable.

Claim 36 stands rejected as allegedly obvious under 35 U.S.C. 103(a) based on the combination of the Holland patent, the Zguris patent and U.S. Patent No. 4,238,303 to Fang (the Fang patent). Again, Applicants assert that the Fang patent fails to disclose the limitations that are missing for the combination of the Holland patent and the Zguris patent, and thus claim 36 is not obvious.

Claims 48, 50 63, and 65 stand rejected as allegedly obvious under 35 U.S.C. 103(a) based on the combination of the Holland patent, the Zguris patent and U.S. Patent No. 6,227,009 to Cusick, et al. (the Cusick patent). Applicants assert that the Cusick patent fails to disclose the limitations that are missing for the combination of the Holland patent and the Zguris patent, and thus these claims are not obvious.

Conclusion

Applicants would like to thank the Examiner for his/her time and consideration of this case. If a telephone conversation would help clarify any issues, or help expedite prosecution of, this case, Applicants invite the Examiner to contact the undersigned at (617) 248-5222. Additionally, please charge any fees that may be required or credit any overpayment to our Deposit Account 03-1721.

Respectfully Submitted,
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